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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,350	07/29/2008	Charlie Bae	207,527	8776
7590 05/28/2009 ABELMAN, FRAYNE & SCHWAB 666 Third Avenue New york, NY 10017-5621				
EXAMINER				
HO, TAN				
ART UNIT		PAPER NUMBER		
2821				
MAIL DATE		DELIVERY MODE		
05/28/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/573,350

**Applicant(s)**

BAE ET AL.

**Examiner**

Tan Ho

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-26 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 18 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/CIS-100)  
Paper No(s)/Mail Date 08/2008; 03/2007; 05/2007; 11/2007; 08/2008  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_



**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4, 6-8, 13, 14, 19 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Stutzman et al (US Patent 6,795,028).

Stutzman et al disclose, in figures 6 and 7, an antenna device comprising a ground plane 104, a capacitive feed plate 108 extending parallel to and being spaced from the ground plane by a first distance and having a feed connection 111 between the feed plate and the ground plane, a radiating element 102 extending generally parallel to and being spaced from the feed plate by a second distance, a galvanic connector 106 connecting the radiating element to the ground plane, and the feed plate at least partially overlapped portions of at least two conductive arms defined by the radiating element and the galvanic connector.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 9-12, 20-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stutzman et al in view of Sanad (US Patent 6,218,991).

The patent to Stutzman et al, described above, differs from the claimed invention because it does not disclose the slot in the radiating element, the specific impedance, greater than 50 Ohm, of the antenna device... Sanad discloses, in figure 1, an antenna device comprising a ground plane, a radiating element, a short circuit, a feed, and a lot 20 in the radiating element 13. Since one of ordinary skill in the art would have recognized the benefits of increasing the gain, it would have been obvious to provide the radiating element of Stutzman et al with a slot as taught by Sanad. Regarding the specific impedance of the antenna device, it would have been obvious to one skill in the art would change the location of the feed to obtain the desired impedance matching of the antenna device. The feed contact pad and ground contact pad to insulate the feed from the ground plane and to electrical connect the galvanic connector to the ground plane are well known in the art and therefore they represent an obvious expedient.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stutzman et al in view of Luk et al (US Patent 6,593,887).

The patent to Stutzman et al, described above, differs from the claimed invention because it does not disclose a dielectric support underlying the radiating element. Luk et al disclose, in figure 2, an antenna device comprising a ground plane 2, a feed plate 5, a radiating element 1, and a dielectric support underlying the radiating element. Since on of ordinary skill in the art would have recognized the benefits of providing a rigid

supporting for the antenna element, it would have been obvious to provide the antenna system of Stutzman et al with the dielectric support as taught by Luk et al.

6. Claims 3, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai et al (6,812,892) in view of Sanad (US Patent 6,218,991).

Tai et al disclose, in figure 1, an antenna device comprising a ground plane 5, a capacitive feed plate 42 extending parallel to and being spaced from the ground plane by a first distance and having a feed connection 4 between the feed plate and the ground plane, a radiating element 102 extending generally parallel to and being spaced from the feed plate by a second distance, a galvanic connector 41 connecting the radiating element to the feed plate. The patent to Tai et al differs from the claimed invention because it does not disclose the galvanic connector connecting the radiating element to the ground plane, and the slot in the radiating element. Sanad discloses, in figure 1, an antenna device comprising a ground plane, a radiating element, a galvanic connector 14 connecting the radiating element to the ground plane, a feed, and a slot 20 in the radiating element 13. Since one of ordinary skill in the art would have recognized the benefits of increasing the gain, it would have been obvious to provide the radiating element of Stutzman et al with a slot as taught by Sanad. Regarding the specific impedance of the antenna device, it would have been obvious to one skill in the art would change the location of the feed to obtain the desired impedance matching of the antenna device. The feed contact pad and ground contact pad to insulate the feed from the ground plane and to electrical connect the galvanic connector to the ground plane are well known in the art and therefore they represent an obvious expedient.

7. The patent to Leelarantne is cited as of interest showing the antenna similar to that disclosed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Ho whose telephone number is (571) 272-1822. The examiner can normally be reached on M-F (8:00AM - 5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tan Ho/  
Primary Examiner, Art Unit 2821

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Art Unit: 2821

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